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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/597,894

03/19/2007

Elisabeth Panchaud-Mirabel

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10/07/2009

AKERMAN SENTERFITT

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EXAMINER

NAFF, DAVID M

ART UNIT

PAPER NUMBER

1657

NOTIFICATION DATE

DELIVERY MODE

10/07/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip@akerman.com

## Office Action Summary

Application No.

10/597,894

Applicant(s)

PANCHAUD-MIRABEL,  
ELISABETH

Examiner

David M. Naff

Art Unit

1657

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

A preliminary amendment of 8/10/06 amended claims 3, 5, 7, 9 and 11-13.

Claims examined on the merits are 1-13, which are all claims in the application.

#### ***Claim Rejections - 35 USC § 112***

5           The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10           Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

15           The claims are unclear how the same process steps can alternatively produce granules or pellets as required in line 1 of claim 1. If a pellet is different from a granule or the converse, different process steps would be required to produce a granule as compared to a pellet, or a pellet as compared to a granule.

In line 6 of claim 1, "carrier" is uncertain as to meaning and scope since the function of the carrier is not specified. Without knowing the function of the carrier, one would not know material that is a carrier and material that is not a carrier.

20           In line 2 of claim 3, "chosen among the group" should be changed to --- selected from the group ---, and in line 3, "chosen between" should be changed to --- selected from the group consisting of --- to be clear. In line 4, the purpose of quotation marks around corn steep liquor is uncertain.

In claims 6, 8 and 9, "preferably" makes unclear whether the preferred feature is to be patentably limiting.

25           Bridging lines 2 and 3 of claim 9, "Celaton FPM 0.08" is unclear as to material required. This term appears to be a tradename, and material represented by this tradename is uncertain.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

5 (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10 This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later  
15 invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jung et al (5,021,350) in view of Chibata et al (4,138,292) and Forgione et al (3,791,927).

The claims are drawn to a process of producing granules or pellets containing  
20 filamentous fungi by growing the fungi in a culture medium, mixing the culture medium with a gelling agent and a carrier to obtain a mixture, gelling the mixture by adding the mixture drop by drop into a solution of calcium salt, and drying the resultant gelled pellets or granules to a moisture content of 13-18%.

Jung et al disclose inclusion of fungi in a polysaccharide gel that has been formed by  
25 cross-linking the polysaccharide (col 3, lines 61-65). The polysaccharide can be alginate (col 5, lines 12 and 33-44). A culture medium is seeded with the fungi and after culturing the culture medium, or a suspension of the fungi obtained by filtering and centrifuging the culture medium, is mixed with a solution of the polysaccharide, and the polysaccharide cross-linked to form the

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gel containing the fungi (col 4, lines 51-68, and col 5, lines 4-6). In an embodiment, pellets containing fungi are produced by adding alginate to a mycelium suspension to form a mixture, and adding the mixture drop by drop to a solution of calcium chloride to form gelled pellets (col, 12, lines 1-7 and col 11, lines 50-55). The gel containing fungi can be dried (col 5, line 46, col 7, line 51, and col 8, line 1 and 14).

Chibata et al disclose entrapping carrier-bound enzymes or microorganisms in a gel matrix. Binding the enzyme or microorganism to the carrier maintains activity, and entrapping the carrier-bound enzyme or microorganism in a gel prevents compacting or deformation of the carrier-bound enzyme or microorganism (col 2, lines 29-32).

10       Forgione et al disclose maintaining activity of enzymes bound to a carrier and reducing channeling and compacting of the bound enzyme by entrapping the bound enzyme in a reticulated cellular material (col 1, lines 30-37).

Jung et al suggest a process for producing pellets containing fungi that is essentially the same as claimed except that Jung et al does not disclose providing a carrier in the culture medium with the gelling agent.

15       It would have been obvious to provide a carrier in the culture medium of Jung et al for binding the fungi as suggested by Chibata et al entrapping a carrier-bound enzyme or microorganism in a gel, and Forgione et al entrapping a carrier-bound enzyme in a reticulated material. The carrier would be expected to maintain activity of the fungi as suggested by Chibata et al. Jung et al disclose drying, and drying to a preferred moisture content of 13-18% would have been a matter of individual preference within the skill of the art. The conditions of dependent claims would have been obvious from conditions disclosed by the references.

20       Hamdy (6,261,811) and Cook et al (5,053,332) are made of record to further show producing a gel containing fungi or microorganisms.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David M. Naff whose telephone number is 571-272-0920. The examiner can normally be reached on Monday-Friday 9:30-6:00.

5        If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jon Weber can be reached on 571-272-0925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications  
10    may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you  
15    would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David M. Naff/  
Primary Examiner, Art Unit 1657

DMN  
9/30/09